

8. REGULATIONS AND ADVISORIES

The international, national, and state regulations and guidelines regarding synthetic vitreous fibers in air, water, and other media are summarized in Table 8-1.

8. REGULATIONS AND ADVISORIES

Table 8-1. Regulations and Guidelines Applicable to Synthetic Vitreous Fibers

Agency	Description	Information	References
<u>INTERNATIONAL</u> Guidelines:			
IARC	Carcinogenicity classification		
	Insulation glass wool, rock (stone) wool, slag wool, and continuous filament glass	Group 3 ^a	IARC 2001
	Refractory ceramic fibers and certain special-purpose glass wools not used as insulating materials	Group 2B ^b	IARC 2001
<u>NATIONAL</u> Regulations and Guidelines:			
a. Air			
ACGIH	TLV (8-hour TWA)		
	Synthetic vitreous fibers		ACGIH 2001
	Continuous filament glass fibers, glass wool fibers, rock wool fibers, slag wool fibers, special purpose glass fibers	1.0 fibers/cc ^c	
	Continuous filament glass (inhalable fraction)	5 mg/m ³	
	Refractory ceramic fibers	0.2 fibers/cc ^c	
NIOSH	REL (10-hour TWA)		
	Fibrous glass dust (fiber glas®, fiberglass, glass fibers, and glass wool); fibers #3.5 µm in diameter and \$10 µm in length)	3 fibers/cc	NIOSH 1992
	Total fibrous glass dust	5 mg/m ³	
	Refractory ceramic fibers	No data	NIOSH 1992

8. REGULATIONS AND ADVISORIES

**Table 8-1. Regulations and Guidelines Applicable to Synthetic Vitreous Fibers
(continued)**

Agency	Description	Information	References
<u>NATIONAL</u> (cont.)			
OSHA	PEL (8-hour TWA)		
	Fiberglass and mineral wool (glass wool, rock wool, and slag wool)	1.0 fiber/cc <i>voluntary</i>	OSHA 1999
	Synthetic vitreous fibers as an inert or nuisance dust		OSHA 2001b
	Respirable fraction Total dust	5 mg/m ³ 15 mg/m ³	
b. Water	No data		
c. Food	No data		
d. Other			
ACGIH	Carcinogenicity classification		
	Synthetic vitreous fibers Continuous filament glass fibers (respirable fibers and inhalable fraction)	Group A4 ^d	ACGIH 2001
	Glass wool fibers, rock wool fibers, slag wool fibers, and special purpose glass fibers	Group A3 ^e	
	Refractory ceramic fibers	Group A2 ^f	
EPA	Carcinogenicity classification		
	Glass wool, continuous filament glass, rock wool, and slag wool	No data	IRIS 2002
	Refractory ceramic fibers	Group B2 ^g	IRIS 2002
	Inhalation unit risk Oral slope factor	No data No data	
NTP	Carcinogenicity classification		
	Glass wool (respirable size)	Reasonably anticipated to be a human carcinogen	NTP 1998
	Continuous filament glass, rock wool, slag wool, and refractory ceramic fibers	No data ^h	NTP 2001

8. REGULATIONS AND ADVISORIES

**Table 8-1. Regulations and Guidelines Applicable to Synthetic Vitreous Fibers
(continued)**

Agency	Description	Information	References
STATE Regulations and Guidelines:			
a. Air		No data	
b. Water		No data	
c. Food		No data	
d. Other		No data	

^aGroup 3: not classifiable as to carcinogenicity to humans, based on inadequate evidence of carcinogenicity in humans and inadequate or limited evidence in experimental animals

^bGroup 2B: possibly carcinogenic to humans, based on limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals

^cRespirable fibers: length >5 µm; aspect ratio ≥3:1, as determined by the membrane filter method at 400–450X magnification (4-mm objective), using phase-contrast illumination.

^dGroup A4: not classifiable as a human carcinogen

^eGroup A3: confirmed animal carcinogen with unknown relevance to humans

^fGroup A2: suspected human carcinogen, based on limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans

^gGroup B2: probable human carcinogen, based on sufficient evidence of carcinogenicity in animals

^hNot listed or assessed in the 9th Report on Carcinogens (NTP 2001)

ACGIH = American Conference of Governmental Industrial Hygienists; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IRIS = Integrated Risk Information System; NIOSH = National Institute of Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = permissible exposure limit; REL = recommended exposure limit; TLV = threshold limit value; TWA = time-weighted average